

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 87-150
NPDES NO. CA0037770

REISSUING WASTE DISCHARGE REQUIREMENTS FOR:

MT. VIEW SANITARY DISTRICT
CONTRA COSTA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter the Board) finds that:

1. Mt. View Sanitary District, hereinafter the discharger, submitted a report of waste discharge dated April 22, 1986, a Long Range Plan for Wastewater Collection, Treatment and Disposal dated January, 1986, Wetland Enhancement Program Status Report dated August 1986, and Biological Assessment of the Mt. View Sanitary District Wetlands Enhancement Program dated July 1987 for reissuance of NPDES Permit No. CA 0037770.
2. The discharger presently discharges an average dry weather flow of 1.53 mgd from its secondary biofiltration treatment plant which has a design capacity of 1.6 mgd. The plant treats domestic wastewater from a portion of Contra Costa County in the vicinity of Martinez. The treated wastewater is discharged directly into 21 acres of intensively managed marsh ponds constructed by the discharger. Effluent from these ponds is discharged into Peyton Slough and Suisun Bay. Effluent in Peyton Slough backs up onto 68 acres of wetland. Among the 68 acre seasonal wetland, 46 acres were recently acquired by the discharger from a local developer. A total of 89 acres of marsh ponds and wetland are managed by the discharger.
3. The digested sludge is dewatered by drying bed in summer and by filter press in winter. The drainage and runoff from the sludge drying bed are collected in a sump and pumped back to the headworks for treatment. The dewatered sludge is disposed of at a permitted landfill site. In the Long Range Plan, the discharger is considering a pilot sludge composting operation. If the operation is cost-effective, the pilot study will be expanded into a full scale operation. The pilot study proposal will be submitted for Regional Board review before it is put into operation.
4. The discharger proposes to construct the treatment plant improvements in four phases. Phase I expansion which was completed on May 14, 1987 consists of a temporary 170,000-gallon flow equalization basin to provide an interim capacity of 1.71 mgd. Phase II expansion consists of a biotower for BOD and partial ammonia removal and improvements to the chlorination and dechlorination system to provide a capacity of 2.4 mgd. Phase III expansion consists of a filter and an additional chlorine contact chamber to provide a capacity of 3.2 mgd. Phase IV improvements consist of a new headworks, a new grit separator and additional standby power which will provide better plant reliability and will not provide additional capacity.
5. The concentration of un-ionized ammonia contained in the receiving water which results from effluent discharge fluctuates with the natural

background pH and temperature in Peyton Slough. While the pH and temperature fluctuation in a shallow slough is merely a natural phenomenon, it has made it difficult for the discharger to consistently comply with the un-ionized ammonia limitation. Peyton Slough and selected reference sloughs were surveyed for benthic invertebrates, fisheries and water quality by the discharger. Biological composition and health of Peyton slough were compared with the reference sloughs which are not impacted by wastewater discharge. The slough survey was to enable the discharger to demonstrate if partial or total removal of ammonia from the effluent is necessary. The results of the slough survey indicated that there is no significant difference between Peyton Slough and the reference sloughs in terms of species abundance and diversity. It is concluded that total removal of ammonia is not necessary. A total of 60% ammonia removal will be achieved after completion of the expansion project and the current ammonia loading into Peyton Slough will be maintained.

6. Based on the results of the slough survey, it is deemed appropriate to replace the receiving water limit of un-ionized ammonia with the effluent limit of total ammonia. The effluent limit is established so that the current ammonia loading will be maintained as the flow increases.
7. The discharge is presently governed by Waste Discharge Requirements in Order No. 84-82 which allow discharge into Peyton Slough.
8. The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on December 17, 1986, and the State Water Resources Control Board (SWRCB) approved it on May 21, 1987. Revised requirements will become effective on November 21, 1987 which is six months after it was approved by SWRCB. Table 4-1 in the Basin Plan contains new effluent limitations for both shallow water and deep water dischargers. The dischargers who cannot comply with the new effluent limitations may propose alternate effluent limits following the criteria described in the Basin Plan. Intent of the discharger must be indicated to the Regional Board before November 20, 1987. At that time, a schedule and plan for submitting proposals for alternate limits must also be provided to the Regional Board staff.
9. Reviewing the past monitoring reports indicated that the discharger will not be able to comply with all of the new shallow water discharge limits for pollutants listed in Table 4-1 of the Basin Plan and will provide additional treatment or propose alternate effluent limits. Staff will review any proposal from the discharger and recommend an NPDES Permit revision to the Board to include new Basin Plan limits or appropriate alternate limits.
10. The Basin Plan contains water quality objectives for Suisun Bay and contiguous waters. The beneficial uses of Suisun Bay, Peyton Slough and the adjacent wetlands are:

- Contact and Non-contact Water Recreation
- Wildlife Habitat
- Preservation of Rare and Endangered Species
- Fish Migration and Spawning
- Industrial Service Supply
- Navigation

Commercial and Sport Fishing
Warm Fresh Water and Estuarine Habitat
Fresh Water Replenishment
Esthetic Enjoyment

11. Discharge to Peyton Slough is contrary to two of the Board's Basin Plan prohibitions: (1) prohibition against discharge where wastewater receives less than 10:1 initial dilution in receiving water, and (2) prohibition against discharge into non-tidal water or dead-end sloughs or similar confined water areas.
12. The Basin Plan provides for exception to these prohibitions where:
 - a. An inordinate burden would be placed on the discharger relative to beneficial uses protected and an equivalent level of environmental protection can be achieved by alternate means such as an alternative discharge site, a higher level of treatment, and/or improved treatment reliability; or
 - b. A discharge is approved as part of a reclamation project; or
 - c. It can be demonstrated that net environmental benefits will be derived as a result of the discharge.
13. The Board has established policy and guidelines on the use of wastewater to create, restore, maintain and/or enhance marshlands in its Resolution 77-1.
14. The discharger has demonstrated, according to the policy guidelines given in Resolution 77-1, that a net environmental benefit is derived as a result of discharge of up to 1.6 mgd of treated wastewater to 43 acres of properly managed marsh ponds and wetland.
15. The discharger has requested that an exception to the Peyton Slough Discharge Prohibition be considered for a discharge of 3.2 mgd. The request is based on the discharger's proposal to:
 - 1) Provide 60% ammonia removal from the effluent which would maintain the current ammonia loading into Peyton Slough.
 - 2) Continue to provide a net environmental benefit by managing a total of 89 acres (an increase of 46 acres) of marsh ponds and wetland in accordance with a Regional Board approved management plan.
16. Based on Findings 14 and 15, a net environmental benefit is and will be provided. Therefore, the discharge up to 3.2 mgd qualifies for an exception to the prohibitions stated in Finding 11.
17. The Environmental Protection Agency requires an antidegradation analysis when an increase in wastewater discharge is proposed. An antidegradation policy was adopted by State Water Resources Control Board in the "Statement of Policy with Respect to Maintaining High Quality of Waters in California". It provides conditions under which a change in water quality is allowable. A change must:

- 1) be consistent with maximum benefit to the people of the State,
- 2) not unreasonably affect present and anticipated beneficial uses of water, and
- 3) not result in water quality less than that prescribed in water quality control plans or policies.

The expansion project is in conformance with the antidegradation policy given that the discharge is and will afford a net environmental benefit.

18. An Operation and Maintenance Manual and a marsh/wetland management plan are maintained by the discharger for purposes of providing plant and regulatory personnel with a source of information describing all equipment, facilities, and recommended operation strategies, process control monitoring, and maintenance activities. In order to remain useful and relevant documents, the manual and plan should be kept updated to reflect significant changes in facilities or activities.
19. This Order serves as an NPDES Permit, adoption of which is exempt from the provisions of Chapter 3 commencing with Section 21100 of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.
20. The discharger and interested agencies and persons have been notified of the Board's intent to amend requirements for the existing discharge and have been provided with the opportunity for a public hearing and opportunity to submit their written views and recommendations.
21. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Mt. View Sanitary District, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder and the provisions of the Clean Water Act as amended and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Prohibitions

1. Discharge at any point at which the wastewater does not receive an initial dilution of at least 10:1 is prohibited. An exception to the prohibition is granted provided the discharger continues to manage 89 acres of wetlands in accordance with the Board approved management plan.
2. Bypass or overflow of wastewater to waters of the State either at the treatment plant or from any of the collection system and pump stations tributary to the treatment plant is prohibited.
3. The average dry weather flow shall not exceed 1.71 mgd until (1) completion of the phase II expansion and (2) demonstration in a manner that is acceptable to the Regional Board Executive Officer of the facilities' ability to provide consistent compliance with waste discharge requirements at this flow. At the time of such completion, the average dry weather flow may be increased to 2.4 mgd. The average

shall be determined over three consecutive dry months each year.

B. Effluent Limitations

1. Effluent discharged to the marsh ponds shall not exceed the following limits:

<u>Constituents</u>	<u>Units</u>	<u>Annual Average</u>	<u>Monthly Average</u>	<u>Weekly Average</u>	<u>Maximum Daily</u>	<u>Instant- aneous Maximum</u>
a. Settleable matter	ml/l-hr	---	0.1	---	---	0.2
b. BOD ₅	mg/l	---	30	45	60	---
c. Total Suspended Solids	mg/l	---	30	45	60	---
d. Oil & Grease	mg/l	---	10	---	20	---
e. Total Chlorine Residual (1)	mg/l	---	---	---	---	0.0
f. Ammonia (2)	mg/l	6.0	8.0	---	---	---

- (1) Requirement defined as below the limit of detection in standard test methods.
- (2) Compliance shall be demonstrated upon completion of the phase II expansion.
2. The arithmetic mean of the biochemical oxygen demand (5-day, 20°C) and suspended solids values, by weight for effluent samples collected in a period of 30 consecutive calendar days shall not exceed 15 percent of the arithmetic mean of the respective values, by weight, for influent samples collected at approximately the same times during the same period (85 percent removal).
3. The pH of the discharge shall not exceed 8.5 nor be less than 6.5.
4. The survival of test organisms acceptable to the Executive Officer in 96-hour bioassays of the effluent shall achieve a median of 90% survival for three consecutive samples and a 90 percentile value of not less than 70% survival based on the ten most recent consecutive samples.
5. Representative samples of the effluent shall not exceed the following limits in ug/l: (1), (3)

<u>Constituents</u>	<u>6-month Median</u>	<u>Daily Maximum</u>
Arsenic	10	20
Cadmium	20	30
Chromium	5	10
Copper	200	300
Lead	100	200
Mercury	1	2
Nickel	100	200
Silver	20	40

Zinc	300	500
Cyanide	100	200
Phenolic Compounds	500	1000
TICHS ⁽²⁾	2	4

- (1) These limits are intended to be achieved through secondary treatment and source control.
 - (2) Total Identifiable Chlorinated Hydrocarbons shall be measured by summing the individual concentrations of DDT, DDD, DDE, aldrin, BHC, chlordane, endrin, heptachlor, lindane, dieldrin, polychlorinated biphenyls, and other identifiable chlorinated hydrocarbons.
 - (3) Regional Board will adopt more restrictive requirements, within three years of the date of this Order, for pollutants listed in this item after its staff has reviewed any request from the discharger for alternate limits from those listed in Table 4-1 of the Basin Plan.
6. The running median value for the MPN of total coliform in any five (5) consecutive effluent samples shall not exceed 23 coliform organisms per 100 milliliters. Any single sample shall not exceed 240 MPN/100 ml.

C. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:
 - a. Floating, suspended, or deposited macroscopic particulated matter or foam;
 - b. Bottom deposits or aquatic growths;
 - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
 - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;
 - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving waters or as a result of biological concentration.
2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:
 - a. Dissolved oxygen 5.0 mg/l minimum. Median of any three consecutive months shall not be less than 80% saturation. When natural factors cause lesser concentration(s) than those specified above, then this discharge shall not cause further reduction in the concentration of

dissolved oxygen.

b. Dissolved sulfide 0.1 mg/l maximum

c. pH Variation from natural ambient pH by more than 0.5 pH units.

3. The discharger shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. Provisions

1. Requirements prescribed by this Order supersede the requirements prescribed by Order No. 84-82. Order No. 84-82 is hereby rescinded.
2. Where concentration limitations in mg/l are contained in this permit, the following mass emission limitations shall also apply:

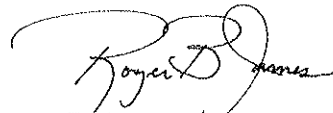
Mass Emission Limit in lbs/day = Concentration Limit in mg/l x 8.34 x Actual Flow in mgd averaged over the time interval to which the limit applies.

3. The discharger shall comply with all sections of this Order immediately upon adoption.
4. The discharger shall review and update its Operations and Maintenance Manual and Wetland Management Plan annually, or in the event of significant facility or process changes, shortly after such changes have occurred. Annual revisions, or letters stating that no changes are needed, shall be submitted to the Regional Board by April 15 of each year.
5. The discharger shall review and update by December 31, annually, its contingency plan as required by Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the discharger has failed to develop and/or implement a contingency plan will be basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.
6. The discharger shall comply with the self-monitoring program as adopted by the board and as may be amended.
7. The discharger shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated December, 1986.
8. This Order expires November 18, 1992. The discharger must file a Report of Waste Discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste

discharge requirements.

9. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after the date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Roger B. James, Executive Officer do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region on November 18, 1987.


ROGER B. JAMES
Executive Officer

Attachments:

Standard Provisions & Reporting
Requirements, December 1986
Self-Monitoring Program
Resolution 74-10

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM
FOR

Mt. View Sanitary District

Contra Costa County

NPDES NO. CA0037770

ORDER NO. 87-150

CONSIST OF

PART A, Dated December, 1986

AND

PART B

PART B

I. DESCRIPTION OF SAMPLING STATIONS AND SCHEDULE OF SAMPLING, ANALYSES, AND OBSERVATIONS

A. INFLUENT AND INTAKE

<u>Station</u>	<u>Description</u>
A-1	At any point in the treatment facilities headworks at which all waste tributary to the system is present and preceding any phase of treatment.

B. EFFLUENT

<u>Station</u>	<u>Description</u>
E-001	At any point in the outfall from the treatment facilities between the point of discharge and the point at which all waste tributary to that outfall is present. (May be the same as E-001-D.)
E-001-D	At any point in the disinfection facilities for Waste E-001 at which point adequate contact with the disinfectant is assured.
E-001-S	At a point between dechlorination facilities and the marsh pond.

C. RECEIVING WATERS

<u>Station</u>	<u>Description</u>
C-R	At a point in Peyton Slough, located upstream of the pond A discharge weir.
C-1	At a point in Peyton Slough, located within 10 feet of the pond B discharge weir.
C-2	At a point in Peyton Slough, located at the downstream headwall of the culvert under Interstate Highway 680.
C-3	At a point in Peyton Slough, located 30 feet upstream of the culvert under Waterfront Road.

C-4

At a point in Peyton Slough, located downstream of the Tide Gate.

D. LAND OBSERVATIONS

Station

Description

P-1 thru
P-'n'

Located along the periphery of the waste treatment or disposal facilities, at equidistant intervals, not to exceed 200 feet. (A sketch showing the locations of these stations will accompany each report.)

E. OVERFLOWS AND BYPASSES

Station

Description

O-1 thru
O-'n'

Bypass or overflows from manholes, pump stations, collection systems or the excavation containing sludge drying bed drainage waste.

NOTE: Initial SMP report to include map and description of each known bypass or overflow location.

REPORTING - Shall be submitted monthly and include date, time and period of each overflow or bypass.

F. MARSH EFFLUENT STATIONS

Station

Description

M-A

In the discharge stream from marsh plot A to Peyton Slough.

M-B

In the discharge stream from marsh plot B to Peyton Slough.

II. SCHEDULE OF SAMPLING AND ANALYSIS

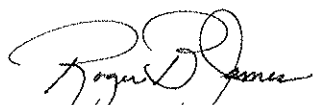
The schedule of sampling and analysis shall be that given as Table I.

III. MISCELLANEOUS REPORTING

- A. Annual report shall include documentation of marsh pond use by the public and wildlife.
- B. Activities associated with marsh and wetland management shall be documented in the self-monitoring reports on a quarterly basis.

I, Roger B. James, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in the Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No. 87-150.
2. Is effective on the date shown below.
3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer.


Roger B. James
Executive Officer

Effective Date NOVEMBER 20, 1987

Attachment:

Table I and Legend for Table

TABLE 1
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS (2), (3)

Sampling Station	A-1	E-001	E-001-D	E-001-S	AllC	P&L	O	M-A	M-B
TYPE OF SAMPLE	C-24	C-24	G	C-24	G	G	O	C-24	C-24
Flow Rate (mgd)	Cont	Cont							
BOD, 5-day, 20°C, or COD (mg/l & kg/day)	2/W	2/W							
Chlorine Residual & Dosage (mg/l & kg/day)					2H or Cont				
Settleable Matter (ml/1-hr. & cu. ft./day)			D						
Total Suspended Matter (mg/l & kg/day)	2/W	2/W							
Oil and Grease (mg/l & kg/day)			2W						
Coliform (Total or Fecal) (MPN/100 ml) per req't				3/W					
Fish Tox'y 96-hr. TL & Surv'l in undiluted waste					M				
Ammonia Nitrogen (mg/l & kg/day)		M							
Nitrate Nitrogen (mg/l & kg/day)		M							
Nitrite Nitrogen (mg/l & kg/day)		M							
Total Organic Nitrogen (mg/l & kg/day)		M							
Total Phosphate (mg/l & kg/day)									
Turbidity (Jackson Turbidity Units)					M				
pH (units)					M				
Dissolved Oxygen (mg/l and % Saturation)					M				
Temperature (°C)					M				
Apparent Color (color units)									
Secchi Disc (inches)									
Sulfides (if DO < 5.0 mg/l) Total & Dissolved (mg/l)					M				
Arsenic (mg/l & kg/day)		Q							
Cadmium (mg/l & kg/day)		Q							
Chromium, Total (mg/l & kg/day)		Q							
Copper (mg/l & kg/day)		Q							
Cyanide (mg/l & kg/day)		Q							
Silver (mg/l & kg/day)		Q							
Lead (mg/l & kg/day)		Q							

TABLE I (continued)
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS (2), (3)

Sampling Station	A-1	E-001		E-001-D		E-001-S		C	P&L	O	M-A	M-B
TYPE OF SAMPLE	C-24	C-24	G	C-24	G	C-24	G	G	O	O	C-24	C-24
Mercury (mg/l & kg/day)		Q										
Nickel (mg/l & kg/day)		Q										
Zinc (mg/l & kg/day)		Q										
PHENOLIC COMPOUNDS (mg/l & kg/day)		Q										
All Applicable Standard Observations								M	M	E		
Bottom Sediment Analyses and Observations												
Total Identifiable Chlorinated Hydrocarbons (mg/l & kg/day)		Q										

LEGEND FOR TABLE

TYPES OF SAMPLES

G = grab sample
C-24 = composite sample - 24-hour
C-X = composite sample - X hours
(used when discharge does not
continue for 24-hour period)
Cont = continuous sampling
DI = depth-integrated sample
BS = bottom sediment sample
O = observation

FREQUENCY OF SAMPLING

E = each occurrence
H = once each hour
D = once each day
W = once each week
M = once each month
Y = once each year

TYPES OF STATIONS

I = intake and/or water supply stations
A = treatment facility influent stations
E = waste effluent stations
C = receiving water stations
P = treatment facilities perimeter stations
L = basin and/or pond levee stations
B = bottom sediment stations
G = groundwater stations

2/H = twice per hour
2/W = 2 days per week
5/W = 5 days per week
2/M = 2 days per month
2/Y = once in March and
once in September
Q = quarterly, once in
March, June, Sept.
and December

2H = every 2 hours
2D = every 2 days
2W = every 2 weeks
3M = every 3 months
Cont = continuous

FOOTNOTES

- (1) Toxicity shall be measured following dechlorination, prior to discharge into the marsh.
- (2) If any sample is in violation of limits, sampling frequency shall be increased for the parameter to weekly until compliance is demonstrated in two successive samples.
- (3) During any day when bypassing occurs from any treatment unit(s) in the plant, the monitoring program for the effluent shall include the following in addition to the above schedule for sampling, measurement and analyses:
 - Composite sample on a hourly basis for BOD, Total Suspended Solids during bypassing.
 - Grab samples on a daily basis for Coliform (Total and Fecal), Settleable Matter and Oil and Grease.
 - Continuous or every two hour monitoring of chlorine residual.
 - Continuous monitoring of flow.